DOCUMENT RESUME

ED 320 319 EC 231 126

AUTHOR Lauritzen, Paul
TITLE Educational Personnel Needs Assessment: CSPD Technical Manual, 1989. Critical Areas of Data Collection.
INSTITUTION Wisconsin Univ., Whitewater. Dept. of Special Education.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC. Div. of Personnel Preparation.
PUB DATE 89
GRANT 6008730036
NOTE 45p.
AVAILABLE FROM CSPO Project, Department of Special Education, University of Wisconsin-Whitewater, Whitewater, WI 53190.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Data Collection; *Disabilities; Elementary Secondary Education; Employment Opportunities; Employment Patterns; Faculty Mobility; Federal Legislation; *Inservice Teacher Education; *Models; *Personnel Needs; Postsecondary Education; *Predictive Measurement; Special Education Teachers; Staff Development; Teacher Employment; Teacher Supply and Demand
IDENTIFIERS Education for All Handicapped Children Act

ABSTRACT

This manual addresses the Comprehensive System of Personnel Development (CSPD) requirement of Public Law 94-142. It presents model procedures for the collection of data necessary to project personnel needs in special education. Implementation of the model will identify: areas of education which show need for additional teachers as well as areas of surplus; ages at which teacher attrition is most likely to occur and the rate of attrition in different teaching fields; and employment opportunities of newly trained teachers for the state. The model also provides information on: the pool of newly prepared teachers available for positions; the need for and availability of teachers with minority backgrounds; the sources of all newly hired teachers in the state; the age, gender, and educational level of all newly hired teachers; and the reserve pool of teachers available to fill vacancies. It also investigates whether noncertified teachers complete their certification requirements and how long they remain in education, and examines the differences between rural and urban education services. The manual provides a rationale for use of the model, guidelines on application of the personnel assessment procedures, and guidelines on assessment of inservice needs. (JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED320519

EDUCATIONAL PERSONNEL NEEDS ASSESSMENT:

CSPD TECHNICAL MANUAL

1988 EDITION

CRITICAL AREAS OF DATA COLLECTION

Prepared by:
CSPD Special Project
University of Wisconsin - Whitewater
Whitewater, WI 53190

BEST COPY AVAILABLE

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Paul
Lauritzen

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EDUCATIONAL PERSONNEL NEEDS ASSESSMENT:
CSPD TECHNICAL MANUAL
1989

CRITICAL AREAS OF DATA COLLECTION

PREPARED FOR
OFFICE OF SPECIAL EDUCATION AND REHABILITATION SERVICES

This document addresses in part the Comprehensive System of Personnel Development requirement of P.L. 94-142. Information about this manual and technical assistance in following procedures included in this document can be obtained by contacting:

The CSPD Assessment Project
Department of Special Education
University of Wisconsin - Whitewater
Whitewater, WI 53190

Funding for this project was provided by a Federal Special Project (Grant # 6008730036) titled "Comprehensive Assessment of Service Needs for Special Education."

Principal Investigator
Dr. Paul Lauritzen

Research Assistant
Debra Heiss

ACKNOWLEDGEMENTS

The project which is the subject of this technical manual was supported by a Federal Special Project Grant No. 6008730036 from the Division of Personnel Preparation, Special Education Programs, U.S. Department of Education. However, the opinions herein do not necessarily reflect the opinion or policy of the U.S. Department of Education, and no official endorsement by the U.S. Department of Education should be inferred.

This project is the result of the cooperation and dedication of several people who have contributed their time and expertise as we developed this manual. We are especially grateful to the Comprehensive System of Personnel Development (CSPD) coordinators and data staff from the states who worked with us on this project during the past year and have given us valuable input on the manual. The participating states during 1988/89included Alabama, Florida, Kansas, Kentucky, Illinois, Indiana, Iowa, Michigan, Minnesota, New Hampshire, Vermont, Washington, and Wisconsin. Special appreciation is extended to Don Blodgett, Project Officer, for his continuous support and encouragement. In addition, we would like to recognize Judy Smith-Davis and Linda Metzke. As consultants to this project they have provided insight, assistance, support, and cooperation. We also wish to acknowledge the collaboration with the National Association of State Directors of Special Education (NASDSE) which has enhanced his project in innumerable ways.

The development of the technology to project personnel needs in education has rapidly evolved with greater dependence on computer-generated data. In the effort to keep this manual brief and readable, only a limited discussion of the rationale behind each procedure is provided. It is the intent of this project to provide technical assistance to states in the implementation of data collection procedures. Please feel free to address suggestions, concerns, or requests to:

CSPD Project
Department of Special Education
University of Wisconsin - Whitewater
Whitewater, WI 53190
(414) 472-5378

PREFACE

This preface explains the revisions in the technical manual from the first printing in 1988. These revisions clarify the procedure and provide expanded areas of investigation while remaining as user friendly as possible. The following modifications strengthen this manual:

1) The model assessment procedures described can be applied across all areas of education. This enables state decision makers to evaluate the needs in special education against the teaching fields in general education. This approach provides a comprehensive information base on the supply and demand for all teachers in a given state.

2) During the past year, the model has been applied in the analysis of teacher personnel needs in several states. This application has provided the basis for the validation of the design, the refinement of the methodology, and the availability of sample studies for review.

3) This report includes three new sections describing the methodology for attrition studies, geographical analysis, and assessment of the reserve pool of teachers.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS i

PREFACE i

Chapter I--OVERVIEW
- Introduction 1
- Objectives 1
- Outcomes of the Model 2

Chapter II--RATIONALE FOR MODEL ASSESSMENT PROCEDURE
- Introduction 4
- Advantages of the Model to Assess Personnel Needs 4
- The Projection of Personnel Needs 5
- Number of Additional Teachers Needed 5
- Teachers Trained Out-of-State 5
- Experienced Teachers Returning or Transferring 6
- Teachers Newly Trained In-State 6
- Addressing the Problem 7
- The Projection of Additional Needed Teacher Trainees 7
- Rationale for Variables Included in the Model 8
- Strengths of the Multi-Component Model 8
- Limitations of the Multi-Component Model 9
- Conclusion 9

Chapter III--APPLICATION OF THE PERSONNEL ASSESSMENT PROCEDURES
- Sources of New Hires 10
  - A. Teachers Trained Out-of-State 11
  - B. Experienced Teachers Returning or Transferring 11
  - C. Newly Hired Teachers Prepared In-State 12
  - D. Number of Teachers Not Fully Certified in the Appropriate Field of Education Who Are Employed on an Emergency License 14
- Number of Eligible Individuals Prepared Yearly by Teacher Training Institutions 15
- The Analysis Followed in Assessing Personnel Needs 17
- Longitudinal Data to Identify Trends 19
- Supplemental Information 21
  - A. Teacher Attrition Studies 21
  - B. Geographical Analysis 22

Chapter IV--INSERVICE
- Assessment of Inservice Needs 26

Chapter V--SPECIAL EDUCATION CSPD EVALUATION MODEL
- Evaluation Model 28

FIGURES

1. Sources of New Hires 4
2. The Projection of Personnel Needs 5
3. Proportion of Newly Trained Teachers 7
4. Projection of Additional Needed Teacher Trainees 7
5. Attrition-Elementary (K-8) 21
6. Attrition-English 21
7. Attrition-Math 22
8. Attrition-Emotional Disturbance 22
9. Services Provided Children with Disabilities by Region 23
10. Comparison Proportion of Special Education Services Provided in Each Region 24

TABLES

1. Sources of New Hires 10
2. Distance of Home Location from Sample Districts for Elementary Level Applicants 11
3. Employment Profile of Sample of Newly Certified Special Education Teachers 13
4. Examples of Reporting Data on Emergency Licenses Issued by the State Education Agency 15
5. Teachers Completing Eligibility for Certification 1987-88 16
6. Comparison of Teachers Completing Eligibility for Certification to Those Employed in Select Categories (In-State Employment Ratio) 17
7. Projected Additional Teachers Necessary to Eliminate the Need for New Emergency Licenses in Select Areas 19
8. Number of Newly Hired Teachers Over a Four Year Time Span 20
9. A Comparison of Select Categories of Handicapped Students Served in Rural and Urban Settings 23
10. Services Provided Children with Disabilities by Region 25

APPENDICES

A. Cover letter for follow-up survey 29
B. Follow-up survey 30
C. Letter to teacher training institutions 32
D. Outline for CSPD Model 33
E. Evaluation model for CSPD plans 35

CSPD TECHNICAL MANUAL

CHAPTER 1
OVERVIEW

Introduction

The CSPD Technical Manual has been prepared in response to the concern of the Office of Special Education and Rehabilitation Services for obtaining more accurate and comprehensive data on personnel needs in special education. This manual addresses this concern, as well as presents procedures for the collection of data in critical areas necessary to project personnel needs. In the past, no standard has existed for identifying the relevant areas of data collection for projecting teacher needs nor has a format for consistent reporting been available. The procedures identified in this manual have been developed over the past ten years and have proven to be reliable and accurate in projecting personnel needs in education. A number of states have participated in evaluating this model and are currently providing data as outlined in this manual.

The model presented in this manual should become the vehicle for the collection of data in the areas of teacher supply and demand, identification of inservice needs and delivery of training, exemplary teaching procedures, and other promising practices that would lead to quality education. The information gained from this model CSPD reporting format will assist the State Education Agency (SEA) in programming decisions, provide the SEA and Institutions of Higher Education (IHEs) data on teacher supply and demand, and provide the Local Education Agencies (LEAs) procedures for inservice needs assessment.

Objectives

Six basic objectives have been identified in the development of the model presented in this manual. A brief description of each objective follows:

1. The first objective was to identify the most relevant procedures for projecting long and short range personnel needs in education. Thus, the model must be broad enough to encompass all areas that have an impact on the supply of teachers and their continued professional improvement.

2. The second objective was to develop procedures that will provide consistent data across the states yet which are flexible enough to adapt to the various program delivery systems among the states. Thus, the model provides a profile of local, state, and, in the near future, regional demands for teachers using identical methods of data collection. Through the cooperation of the participating states, common definitions of terms are being developed and incorporated in this model. This is a critical objective since it will afford the federal decision makers data on national needs which will provide justification for legislative requests in support of programs for all children.

3. The third objective was to utilize procedures that will produce the needed information in the most cost efficient way possible. This training manual relies heavily on computer-generated data which minimizes the personnel hours needed to compile survey studies or to conduct other time-consuming activities. This manual presents procedures that cover those areas of information that must be a part of a state's data base. Computer programs for gleaning the answers to the questions about supply and demand through an efficient and accurate system have been demonstrated. Once a state has designed the necessary data base, the information can be updated on a yearly basis at very low cost. In addition, a wide variety of analysis is possible, which provides supplemental information that can be used in state policy planning (teacher attrition, projected retirement, etc.). This model also provides for the rotation of selected components on a two or three year basis in areas where data has proved to be relatively stable over time.

4. The fourth objective was to keep the procedures as simple as possible while still obtaining the necessary information. This manual will meet this objective by relating several data points without complex statistical or analytical procedures. States will be given some choice of procedures that can be followed which will meet the data objectives.

5. This fifth objective was to identify basic areas of data collection that are necessary for a system that accurately assesses the personnel needs in education. Chapter II presents a rationale for these areas of data collection and their use to project personnel needs. Chapter III details application of the personnel assessment procedures. A brief description of the four areas follows:

   Basic Areas of Data Collection for Teacher Supply and Demand Information

   1) the number of teachers trained out-of-state
   2) the number of experienced teachers returning or transferring
   3) the number of newly trained/certified teachers prepared in the state
   4) the number of teachers newly employed in education who are not fully certified in their teaching category (first year emergency licenses)

6. The sixth objective of this manual was to present a format for reporting CSPD data in the State Program Plan. P.L. 94-142 (The Education for All Handicapped Children Act) regulations were reviewed to identify the mandated areas of data reporting. New areas of information which are necessary for a comprehensive data system are recommended to supplement previously mandated information. The final recommended CSPD reporting format should provide the data required for accurate assessment of personnel needs in special education. The final step in developing the reporting format was to assign points on the basis of the contribution of the information to the total CSPD plan base. The assigned point system provided an objective procedure to evaluate the quality of the CSPD section of the State Program Plan.

Outcomes of the Model

The implementation of this model will provide a broad base of information and will answer many questions about the personnel needs in the field of education. The procedures that provide the majority of the data required to project preservice needs can, in most cases, be generated from the SEA's computer data base. Thus, those states with a system that incorporates selected information about teachers and their certification can produce the data with appropriate computer programming. A description of the information required in the data base is included in Chapter III.

Once the basic procedures are in place, it becomes easy to expand the areas of data collection to investigate many variables that impact on personnel needs (e.g., attrition, geographical variables, retirement, etc.). The information is very comprehensive and provides an accurate profile of preservice training needs. Following is a partial list of important outcomes:

1. Identifies the areas of education which show need for additional teachers as well as areas of surplus

2. Identifies clearly the ages at which teacher attrition is most likely to occur and the rate of attrition in different teaching fields

3. Identifies employment opportunities of newly trained teachers for the state

4. Provides annual information on the pool of newly prepared teachers available for positions

5. Investigates the efficacy of employing teachers who are not fully certified in terms of how long they remain in education or whether they complete their certification requirements

6. Examines the differences between rural and urban education services

7. Provides information on the need for and availability of teachers with minority backgrounds

8. Provides a profile of the sources of all newly hired teachers in the state

9. Provides information on the age, gender, and educational level of all newly hired teachers

10. Provides information for assessing the reserve pool of teachers which is available to fill existing vacancies

Thus, the model satisfies these goals:

1. It enhances the collaborative personnel planning within the state among college and university personnel, regional and local education personnel, and the SEA so that a system can be developed for continuous input.

2. It guides the development of a coordinated data base for state administrative decisions regarding educational programming within various government agencies responsible for the education of all children.

3. It provides an objective comprehensive view of education programs within the state to produce accountability for data and statistics.

4. It provides a basis for advising and assigning students to majors relevant to the supply and demand of teachers.

5. It supplies accurate data about new trends in certification to professionals working in the field of education so that teachers can provide the best possible programs for their students as well as develop a professional identity and sense of security for themselves.

CHAPTER II
RATIONALE FOR MODEL ASSESSMENT PROCEDURES

Introduction

This chapter serves to present and discuss a model that provides a methodology for assessing the teacher personnel needs in education. This approach is based on a careful analysis of new hires (all the teachers newly hired by a state for a given year). The procedure is data efficient in that only four categories of information are used to determine the projected teacher needs. The information can be easily obtained if a state has a complete certification/employment computerized data file.

The four general areas that represent the possible sources of new hires are shown in Figure 1.

FIGURE 1

SOURCES OF NEW HIRES

1. Teachers Trained Out-of-State	2. Experienced Teachers Returning or Transferring	3. Teachers Newly Trained In-State	4. Teachers On Newly Issued Emergency Licenses

The proportion of teachers in each of these categories will vary considerably from one state to another. As an example, only about 10% of some states' new hires receive their preservice training in out-of-state programs while in other states this percentage may exceed 50%.

The answer to the teacher shortage in any one state is to increase the availability of new hires from one or more of the first three sources listed in Figure 1. The last source (emergency licenses) is also a potential pool of new hires, but cannot be considered a solution to the teacher shortage since these teachers are not fully prepared for their field.

Advantages of the Model to Assess Personnel Needs

The procedures used to assess personnel needs discussed in this paper are designed to be accurate and data efficient. This is important for cost effectiveness and acceptance by the state education agencies (SEAs) who choose to implement the procedures.

The use of new hires as the measure of each state's identified teacher need is market generated. Some of the many variables that are reflected in market needs include attrition, retirement, pupil/teacher ratios, economic impact on education funding and certification standards. By using each state's identified teacher needs, the state's right issue is avoided (state's right to determine its own educational policy, rules, and procedures).

An alternative to this approach is to use projected incidence of students based on the state's pupil population according to age level and teaching fields. This approach is not considered since factors such as criteria for level of service and diversity in delivery models would have to be considered.

The procedures must be flexible to adapt to the various program delivery systems that are unique to the states. Factors such as geographical isolation, pupil/teacher ratios, and differences in certification standards must be accomodated.

The procedures must be accurate while maintaining data efficiency. The data points needed to apply the procedures must not be so complex that they are cost prohibitive to implement. This is accomplished by analysis of the newly hired teachers as a market indicator of personnel needs. This market approach encompasses many variables including teacher attrition and retirement, which eliminate the requirement for separate analysis in each of these areas. States with a simple, well-planned data base can easily assess their personnel needs with the procedures presented.

The Projection of Personnel Needs

The states that follow the model in Figure 2 can increase their supply of new teachers by addressing the first three sources of new hires. The manipulation of the variables that affect these sources provides a state the opportunity to reduce or eliminate a potential teacher shortage.

FIGURE 2

THE PROJECTION OF PERSONNEL NEEDS

Total of New Hires − (New Hires From Out-of-State + Experienced Teachers Returning or Transferring + Teachers Newly Trained In-State) = Number of Additional Teachers Needed

The total number of new hires calculated on a yearly basis appears to be the best measure of personnel needs. When program growth or decline occurs on a consistent basis, projection for future years can be corrected by applying regression procedures (e.g., the number of teachers could be predicted by changes in pupil enrollment; economic impact could be gauged by changes in pupil-teacher ratios). The education program size has been relatively stable in most states for the past several years. Based on this stability the number of new hires from the previous years can be used to project the needed personnel in most states.

Number of Additional Teachers Needed

Unfilled personnel needs occur when all the sources of qualified new hires cannot collectively provide enough teachers to fill existing vacancies. Many states list unfilled vacancies and use this as one indication of additional teachers needed. The current model does not consider this category as a measure since the districts do have other options available, such as hiring out-of-field teachers, increasing recruitment efforts, hiring long-term substitutes, making the position more attractive (e.g., raise salary) or reassigning pupils and thus, increasing the pupil/teacher ratio. These solutions may not be educationally sound, yet they do reflect market-generated alternatives. Since the extent of a district's recruitment or the political reasons a position may not be filled (e.g., reduced budget, keeping a position open for a returning teacher) are unknown, this category of unfilled vacancies does not accurately represent need.

Most states have a policy which permits the hiring of teachers not certified in the needed teaching field after making a reasonable search for a qualified teacher. These out-of-field trained teachers are usually given an emergency license which permits them to teach for a limited period (typically one year) with continuation of the license contingent upon obtaining a prescribed amount of yearly training in that field. Some states are even licensing individuals who have not received any preparation in the field of education. Federal Law P.L. 94-142 mandates that each child with a qualifying handicapping condition be placed in an appropriate educational program within 30 days of the placement decision. Thus, when districts cannot find qualified teachers they are still mandated to fill these positions for eligible handicapped children who cannot be appropriately placed in general education.

Thus, in Figure 2, the number of additional teachers needed would in probability be the same as the number of teachers newly employed on emergency licenses for that year. This suggests that a reliable measure of the additional qualified teachers needed by a given state is the number of new emergency licenses issued for that year.

Teachers Trained Out-of-State

The teachers who are trained in other states can be a considerable source of qualified new hires. This proportion varies considerably. Some states obtain only 10% of new hires from out-of-state

while in other parts of the country this percentage can exceed 50%. Many different factors seem to account for this variability. These include reciprocity in certification, minimal certification standards, attractive climate, progressive educational system, salary, and family unity. There is only limited information currently available to explain all the factors determining why teachers relocate to other states.

A partial explanation of this mobility can be based on the minimal research available. Experienced teachers (usually older and married) generally move because the primary wage earner relocates to another state. The most mobile are inexperienced teachers, the recent graduates who are not likely tied to family committments. Salary and climate can be factors in attracting teachers. States with large urban programs or isolated geographical locations may have difficulty keeping teachers in these areas.

There are several reasons that may make recruitment of out-of-state teachers a less than fully acceptable approach to addressing the teacher shortage problem. The teachers with the most mobility to locate in new states are this year's newly trained teachers. Yet this age group (under 30) have the highest attrition rate of all teachers. Also, with most of the states needing qualified teachers in select fields, the recruitment from other states tends to increase the problem in another geographical area. Lastly, the different service delivery systems and certification standards may make out-of-state prepared teachers not as qualified as those trained for each state's education program. Some states are currently very dependent on teachers trained in other states to fill existing vacancies. Teachers prepared in other states will continue to remain a necessary and viable source of qualified, new special education personnel for these states.

Experienced Teachers Returning or Transferring

Returning or transferring experienced teachers is one of the largest sources of new hires for most states. This is a result of numerous complex factors. This category of new teachers is defined to include qualified teachers who return after absence from teaching and those who move from one teaching field to another. Teachers who move from one district to another within the state would be considered as transfers.

The limited preliminary research in this area suggests the main reason these teachers return to the field is economic in nature. Other factors were the enrollment of their young children into school and a desire to return to a challenging profession. Transferring teachers usually relocate because the primary wage earner has made a professional move. Data suggests that this older pool of teachers is very restricted geographically. Comprehensive research is currently investigating the factors that restrict, as well as invite, this pool of teachers to return to the field or transfer.

The reserve pool of teachers contributing to the returning teachers source is composed of an active reserve (teachers actively seeking employment in education) and an inactive reserve pool (qualified teachers who are not searching for educational positions). This inactive pool has less probability of returning to the field for numerous reasons (e.g., employment in other professions, family responsibilites, choice not to teach, discontinuation of job search). Again, the most limiting factor on the availability of teachers from this pool is the geographical restriction of those with family ties.

Teachers Newly Trained In-State

Newly prepared teachers provide a necessary source of teachers. The importance of this source is that it will contribute, in time, to the experienced teachers pool, as well as provide immediate new hires. This is probably the best source of new teachers which can be effectively increased, resulting in the reduction of the need to hire unqualified teachers.

The difficulty of using the number of newly prepared teachers alone to project the supply of personnel available to fill open positions is that a large proportion of these new trainees do not actually secure employment in the state that prepared them. Some leave the state to teach, while

others rear children or work outside the field of education. When projecting the availability of newly prepared personnel, this initial attrition must be corrected by using only the proportion of newly prepared teachers who secure teaching positions in their state. The proportion of newly trained teachers available is obtained by dividing the total number of teachers trained who secure employment in the state by the total number of teachers trained in that certification category (See Figure 3).

FIGURE 3

PROPORTION OF NEWLY TRAINED TEACHERS

$$\frac{\text{Number of New Hires Trained in State by Certification Category}}{\text{Number of Teachers Trained in the State Previous Year by Certification Category}} = \text{Proportion of Newly Trained Who Secure Teaching Positions In-State}$$

Addressing the Problem

The reasons for the shortage of teachers in education should be considered in finding a realistic solution to the problem. The large yearly decline in the number of special educators being trained over the past several years, the equally large decline in the number of minority teachers being trained, and the population redistributions in some states all contribute to this shortage. Also the high attrition rate in some fields is a major contributing factor. Considering all these factors, the single most realistic long-term solution to the teacher shortage is to increase the number of new teachers being prepared in fields with a need and to train teachers willing to serve in geographical areas that are in need. This would make available not only newly trained teachers for the state, but, in time, expand the source of new teachers for the experienced teacher pool. If many states adopt this approach, it would also result in the out-of-state pool becoming more available.

The second important approach to reduce the shortage of teachers is to reduce attrition rates. The high attrition rate of young female teachers will in all probability remain high due to family commitments. However, this is more complex problem since the quality of the teaching environment will need to be improved to have a significant impact on the current attrition rates.

The Projection of Additional Needed Teacher Trainees

States that elect to address the teacher shortage by supporting procedures that will increase the number of teachers being prepared can follow a procedure that will give a projection of additonal teachers needed. This can easily be done by relating the proportion of newly prepared teachers who secure teaching positions to the additional needed teachers as determined by the number of newly issued emergency licenses in a given certification category. By simply dividing the number of emergency licenses issued the previous year by the proportion of newly prepared teachers who secure teaching positions in the state, the number of additional needed teachers trained above current levels will be obtained. The model is shown in Figure 4. This approach will not project the number of additional teachers needed unless there is a shortage of teachers indicated by issuance of new emergency licenses.

FIGURE 4

PROJECTION OF ADDITIONAL NEEDED TEACHER TRAINEES

$$\frac{\text{Number of New Hires on Emergency License}}{\text{Proportion of Newly Trained Teachers Who Secure Teaching Positions In the State}} = \text{Additional Needed Teacher Education Graduates}$$

There are several serious limitations in projecting teacher needs by only relating the number of teachers being prepared to the number of newly issued emergency licenses. The isolation of some rural areas may make it very difficult to attract teachers when there are limited professional employment opportunities for their spouses. The fields of special education with low incidence handicapping conditions (visually impaired, hearing impaired, severely handicapped) are very restricted by this geographical barrier. Also, not all emergency licenses may reflect full time teacher needs, but rather a temporary or isolated teacher problem.

Rationale for Variables Included in the Model

The most frequently identified problem contributing to the shortage of teachers is the high attrition rate. Recent research shows this to be a declining factor in the shortage of teachers. States that have accurate longitudinal data show a steady decrease in the attrition rate. The high attrition rate in special education can, in part, be attributed to the younger age of the teachers in this field. This fact will contribute to a continuing future decline of teacher attrition in special education.

The many factors that research has identified as relevant to teacher attrition (administrative support, raising a family, quality of preparation, curricular independence, etc.), in part, reflect the support society provides public education. Considering these data, the total educational environment would need to be altered to further reduce attrition. The manipulation of this environment would seem to require a change in our societal values.

Another approach frequently considered to reduce the shortage of teachers is to increase the supply of experienced teachers returning to the field. It is well recognized that education is a female-dominated profession, and many teachers tend to leave the field while caring for young children, and then return as their family matures. This pool of experienced teachers makes up a considerable proportion of new hires in many states. Several factors are clear considering this source of new hires. First, they are restricted geographically since the returning teacher is generally not the primary wage earner. Second, certification changes can inhibit their re-employment. Third, increases in this pool of experienced teachers is dependent on the continued preparation of new teachers. These factors support the need for increased preparation of new teachers in fields with a shortage of teachers.

Utilization of teachers trained out-of-state as a potential solution to shortages also presents difficulties. Certification standards are problematic unless states have reciprocity or unless a state has minimal certification standards. Individuals trained out-of-state may be unfamiliar with some service delivery systems. Additionally, teachers with the greatest mobility are young, newly trained teachers who also experience greater attrition rates. Finally, many states are experiencing personnel shortages, so that relocation of teachers does not represent a true solution to the problem.

Several standards, including teacher certification and raising pupil/teacher ratios, relate to the shortage of teachers. To reduce the effect of these variables would only reduce the quality of education. The reduction of these standards was, therefore, not considered appropriate for this model.

Strengths of the Multi-Component Model

The strength of the multi-component approach to projecting personnel needs is that it provides the opportunity to approach the solution of the teacher shortage with procedures that fit a given state's potential for attracting teachers. This is very critical to states that secure the majority of their teachers from other states. This procedure also provides a more comprehensive picture of the sources of potential new hires. Once these procedures are developed utilizing the existing certification/employment file they can be easily replicated on a yearly basis to update the information. An additional strength of this approach is that it requires only four data points to accurately project teacher needs.

A rigid, dogmatic formula to project personnel needs does not seem reasonable in a field such as education with its unpredictable nature. The value of the procedures presented in this chapter

is that they provide a degree of objectivity in measuring personnel needs, a format to increase the understanding of the sources of personnel, and a comparison between different program areas in the field of education.

Limitations of the Multi-Component Model

The recruitment of personnel from out-of-state may only increase the shortage of faculty in those states that have difficulty retaining them. An additional limitation is that the solution to the teacher shortage for some states cannot be resolved by simply increasing the number of teachers being prepared.

Special education areas with low incidence handicapping conditions (visually impaired, hearing impaired, and severely handicapped) face unique problems in securing qualified teachers. The geographical isolation of the majority of these programs limits the availability of teachers who are restricted by family commitments. The problem can not simply be resolved by preparing more teachers for these fields unless these new trainees have some tie to the areas needing teachers. The answers to resolving the teacher shortage in low incidence conditions are far more complex than in other educational areas.

Conclusion

The information presented in this manual delineates procedures to determine personnel needs by certification area and identifies the potential sources of teachers that could resolve teacher shortages in specified educational areas. Continued research is needed on how to reduce teacher attrition, how to attract teachers back to the profession, and ways to increase the number of personnel trained. Considering the decreasing numbers of newly trained teachers in select fields and the high attrition rate in special education and urban areas, it seems logical that efforts must be made to improve the teaching environment while also increasing the recruitment of new trainees. At present this model appears to be a viable one to measure the critical shortage of teachers in select fields and geographical areas.

CHAPTER III
APPPLICATION OF THE PERSONNEL ASSESSMENT PROCEDURES

This chapter describes the methodology followed in the collection of the data and presents examples of how the information is compiled. The procedures described in this assessment process are, to a large extent, dependent on computer-generated information which states having a comprehensive computer system can easily acquire. As previously mentioned, this approach is market-generated so that it is responsive to each state's needs and procedures.

Sources of New Hires

This data can easily be obtained by establishing a computer-generated file of all the newly hired teachers for the current school year. The use of a state's certification and employment records can provide the necessary data points to compile this record. The example in Table 1 provides only the basic data needed to assess teacher needs. This analysis can be expanded to result in a comprehensive profile of the newly hired teachers. This expansion, dependent on the information available in the computer file, can provide data on minority teachers, ages of newly hired teachers, educational level, and specific geographical areas supplying out-of-state teachers.

TABLE 1
SOURCES OF NEW HIRES

	Teachers Trained Out-of-State	Experienced Teachers Returning or Transferring	Teachers Newly Trained In-State	Teachers on Newly Issued Emergency License	TOTAL
ELEMENTARY (K-8)	243	678	426	5	1352
Secondary/Specialty					
English	36	43	67	5	151
Reading	12	49	9	11	81
Foreign Language	18	46	30	8	102
Math	23	24	56	4	107
Music	54	78	62	7	201
Physical Education	18	54	58	3	133
Art	14	39	66	8	127
Science	23	16	28	9	76
Social Studies	19	24	36	9	88
TOTAL SECONDARY/ SPECIALTY	217	373	412	64	1066
Special Education					
Hearing Impaired	4	7	3	8	22
Early Childhood	12	26	23	14	75
Emotional Disturbance	32	34	108	128	302
Learning Disability	27	61	69	103	260
Mental Retardation	7	38	44	6	95
Speech/Language Therapy	14	46	28	32	120
Visually Impaired	3	2	3	1	9
TOTAL SPECIAL EDUCATION	99	214	278	292	883
GRAND TOTAL	559	1265	1116	361	3301

A. Teachers Trained Out-of-State

This data can usually be obtained on the certification file of newly employed teachers. SEAs with a more complete data file can identify the specific state and/ or training institutions which provide the largest number of their out-of-state newly hired teachers. The data from the analysis of states that have compiled this information indicates that the majority of new out-of-state trained hires comes from adjacent states.

B. Experienced Teachers Returning or Transferring

This source of new hires in many states contributes up to 40% of the newly employed teachers. This source of personnel includes teachers coming from the reserve pool of experienced teachers and those transferring within the state.

1) Reserve Pool

This pool consists of teachers who are actively seeking employment (active reserve) and those who are no longer looking for a position (inactive reserve). The methodology presented in this manual only assesses the active reserve pool as a viable source of new teachers. The information on this pool must come from survey data sent to individual school districts. The districts are selected on a random basis to represent different geographical areas and districts of various sizes.

Each district is asked to provide information from the applications they have received for each advertised position. The information requested would include the certification of the applicant, the home town of the applicant, the amount of previous teaching experience and any other relevant data. Since a candidate's name is kept confidential until hired, the school district's secretary is requested to tabulate the information. If it is possible to reimburse the secretarial time for this activity, the districts are much more likely to cooperate.

The data from this survey can be charted to learn the distance of the applicant's home address from the school district (a measure of geographical restriction) (See Table 2), the extent of previous experience, and the number of applicants within a particular geographical area. The effect of multiple applications that active job seekers will submit may be partially assessed by the geographical restrictions of the candidate and by surveying newly hired teachers and requesting information on how many applications they submitted.

TABLE 2

DISTANCE OF HOME LOCATION FROM SAMPLE DISTRICTS
FOR ELEMENTARY LEVEL APPLICANTS

	<25 miles	25-50 miles	>50 miles	out-of-state	Total
Teachers with No Experience	124	68	87	22	301
Experienced Teachers	120	34	23	37	214
Total	244	102	110	59	515

2) Teacher Transfers

Teacher mobility within a state does not impact on the overall supply of teachers, but it is a variable that needs to be considered if some geographical areas gain teachers at the expense of others. The SEA teacher employment record from the previous year can be compared to the data file of newly hired teachers to obtain this information.

C. Newly Hired Teachers Prepared In-State

The important source for evaluating the impact of a state's teacher preparation programs on the supply of teachers is the number of new teachers trained in-state without previous experience. It should be noted that this in-state newly trained teacher category includes all hires who have no previous experience even if they completed their preparation several years prior to their first employment.

1) In-State Prepared

The most efficient method of obtaining this information is to identify the teachers prepared in-state from the computer-generated file of newly hired teachers. The contribution of teachers to the state by each teacher training institution can also be identified.

2) Follow-up Survey of Newly Trained

The follow-up survey described in this section is a recommended option that provides information to supplement computer-generated data that can't be obtained by other means. Where computer analysis is not possible, the survey offers an alternative method of collecting information on the employment status of newly certified teachers prepared in-state.

The teacher training institutions are asked to supply a list of names of all their newly prepared/certified teachers completing their program between July 1 and June 30 of the previous year. These dates are used to provide consistency across states. From this state pool of newly certified teachers, a random sample is selected. In certification categories in which the total number of teachers is small, the entire category should be included. In large categories, the size of the sample should be determined by the number of individuals completing certification. For further information on drawing random samples consult Borg and Gall (1989), Education Research: An Introduction or a similar resource on research design. After the sample is selected for the follow-up, training institutions are again contacted to obtain locator information on the selected teachers. Those selected in the random sample are sent a cover letter and survey instrument. If they do not respond by the given deadline, they are followed up by telephone.

Previous research has shown that teachers have very high attrition rates during their first five years of teaching. Due to the high turnover rate of this group of teachers and their unique inservice needs, it is recommended that the sample of teachers be followed for each year of a four year cycle. It is also recommended that an independent body conduct the follow-up to eliminate errors of institutional reporting. This data collection activity can be successfully contracted out to an IHE. When training programs or placement offices conduct their own surveys, it may be in their best interest to show high employment rates for their graduates. Furthermore, the procedure recommended in this manual provides common definitions and assures a consistent format for reporting information. The data obtained provides a state-wide profile of the employment status, as well as inservice and preservice needs of newly trained teachers.

The most important feature of this survey is the employment profile that it yields. This includes the number actually teaching in their area of preparation, the number who leave the state, the number who work outside of education, the number not seeking employment, and those who obtain employment in education outside their area of preparation. It is impossible to make an accurate determination of teacher supply without ascertaining what percentage of newly prepared teachers actually remain in their home state to teach in their area of preparation.

This survey provides an opportunity to determine perceived training needs of newly prepared teachers. Questions about salary, how many years they intend to remain in teaching, and satisfaction and/or dissatisfaction can also be included. This group may be surveyed over a period of years to determine continued training needs, changes in attrition rates, salary, and other pertinent information required to answer questions about the status of teaching. In addition, this survey can be used to investigate both the satisfying aspects of the teaching profession, as well as those factors that contribute to teacher dissatisfaction.

Table 3 is an example of the presentation of this information in the field of special education. Interpretation and discussion of the results shown in this table should follow the table. The letter and survey form used for special education are included in Appendices A and B.

TABLE 3

EMPLOYMENT PROFILE OF SAMPLE OF NEWLY CERTIFIED SPECIAL EDUCATION TEACHERS

	Hearing Impaired		Early Childhood		Emotional Disturbance		Learning Disability		Mental Retardation		Speech/Language		TOTAL	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
In Area of Certification in state	3	30	23	56	26	70	28	65	24	62	24	26	128	60
out state	1	10	4	10	5	14	5	12	4	11	6	15	25	12
In General Education	1	10	4	10	0	0	2	5	4	11	0	0	11	5
In Other Area of Special Education	2	20	6	15	2	5	0	0	8	23	0	0	18	9
Continuing Education	0	0	1	2	1	3	1	2	0	0	2	5	5	2
Unemployed or Raising Family	2	20	2	4	2	7	3	9	2	6	0	0	11	5
Employed with Handicapped out of Education	1	10	0	0	0	0	2	5	0	0	7	18	10	5
Employed not with Handicapped out of Education	0	0	1	2	1	3	1	2	1	3	0	0	4	2
# RETURNS	10		41		37		42		43		39		212	
TOTAL SAMPLE	14		50		50		50		50		50		264	

STEPS IN DATA COLLECTION

1. Request from each teacher preparation program a list of names of each student completing a certification program during the prior year (July 1-June 30).
2. Using random numbers draw a sample from each certification category. (Sample size depends on the number completing programs.)
3. Request address, phone number, and parent's address from each teacher training institution of those program graduates selected in the sample.
4. Telephone teacher training institutions not responding to request locator information.
5. Contact parents or alumni associations for addresses not available from teacher training institutions. Parents are often easier to locate and they will usually provide needed information.
6. Send survey to random sample with cover letter including deadline. (Appendices A and B).
7. Telephone those not responding after deadline has passed.
8. Develop table to reflect number and percent in each employment category. (Table 3 provides an example for special education.)

D. Number of teachers not fully certified in the appropriate field of education who are employed on an emergency license.

The number of teachers employed in each state who are not fully certified is one measure of a teacher shortage. Since there are so many different terms used to identify teachers who are not fully certified, this manual refers to this type of teaching approval as emergency license. The administrative unit in the SEA responsible for certification should be able to provide this information.

The number of emergency licenses issued over a period of years should be included so that trends can be identified. The data will provide information about the specific certification areas which have the greatest need for teachers.

It is also important to include a description of the state policy and/or guidelines on the issuance of the emergency licenses. States should, for their own information, identify the number of teachers on emergency licenses who earn full certification each year. This information provides insight into the efficacy of issuing emergency licenses to meet the demand for teachers in fields of critical shortage. See Table 4 for an example of this data.

STEPS IN DATA COLLECTION

1. Search the SEA computer data base to provide information on the total number of emergency licenses issued by each certification category for the previous school year. Also, report this information from previous years to identify trends in teacher needs. The data, if possible, should provide a comparison of emergency licenses issued in all areas of education.
2. Search the data base to provide the number of new (issued for the first time) emergency licenses issued by certification category for the previous year. This data is a vital part of the procedure to project teacher shortages related to training needs.
3. Provide a statement of the state policy and/or guidelines on the issuance of emergency licenses.
4. Provide a complete explanation regarding specific reasons the fields with an adequate supply of teachers utilize emergency licenses (e.g., magnet schools with emphasis areas such as fine arts needing special expertise). Identify fields without an adequate supply of teachers.

TABLE 4

EXAMPLES OF REPORTING DATA ON EMERGENCY LICENSES
ISSUED BY THE STATE EDUCATION AGENCY

	1986-87		1987-88		1988-89	
	TOTAL	NEW	TOTAL	NEW	TOTAL	NEW
Elementary Education						
Elementary (K-8)	76	6	68	5	63	5
Secondary/Specialty						
English	23	4	49	8	34	5
Reading	102	13	99	11	100	11
English as a Second Language	112	12	126	17	180	25
Math	46	7	54	7	28	4
Music	24	4	39	9	28	7
Physical Education	13	3	15	5	10	3
Science	77	14	69	10	53	9
Social Studies	67	11	72	15	51	9
TOTAL SECONDARY/ SPECIALTY	464	68	523	82	484	73
Special Education						
Hearing Impaired	5	2	6	3	10	8
Early Childhood	58	18	52	17	52	14
Emotional Disturbance	289	97	354	129	468	128
Learning Disability	241	60	325	76	297	103
Mental Retardation	31	2	26	4	37	6
Speech/Language Therapy	58	12	63	15	54	32
Visually Impaired	2	0	2	0	2	1
Cross-Categorical	114	37	116	3	116	36
TOTAL SPECIAL EDUCATION	798	228	944	247	1036	328
GRAND TOTAL	1338	302	1535	334	1583	406

Number of Eligible Individuals Prepared Yearly by Teacher Training Institutions

Information on the supply of newly prepared teachers can be used in conjunction with other information to project the personnel available to provide instruction. It is important to collect counts in this area yearly so that both short-term and longitudinal data are available.

The information about the number of new teachers prepared yearly by the institutions of higher education is best obtained directly from each teacher training program. Both public and private institutions are sent a letter requesting the number of all new certifications earned by teachers during the period from July 1 to June 30 of each year. These dates are used to provide consistency across states. Those institutions which do not respond by the deadline indicated in the cover letter are telephoned to remind them of the importance of the information. A sample of a letter requesting this information from training institutions is found in Appendix C.

Some states have contracted with one of the IHEs in their state for this information. This outside agency may be in a better position to cooperatively collect this information.

The information is reported by institution and certification category. States can use their own nomenclature in reporting the information. Teachers completing more than one certification in education are counted for each certification category completed during the period from July 1 to June 30. States may want to show both undergraduate and graduate level training for their own information. Table 5 gives an example of a table reporting the number of teachers completing eligibility for certification.

TABLE 5

TEACHERS COMPLETING ELIGIBILITY FOR CERTIFICATION
1987-88

School	Elementary Education (K-8)	English	Reading	English as a Second Language	Math	Music	Physical Education	Science	Social Studies	Hearing Impaired	Early Childhood	Emotional Disturbance	Learning Disabilities	Mental Retardation	Speech/Language	Visually Impaired	Cross-Categorical	Total
Ivory Tower	247	55	19	8	45	19	25	58	36	-	10	17	6	38	40	-	4	627
Normal	246	17	6	-	17	16	37	9	38	-	44	10	10	30	13	-	26	519
Athletic Tech	96	16	9	-	5	12	67	32	20	-	-	11	16	-	-	-	-	284
Easy Grader	98	8	4	-	12	3	31	14	6	-	4	-	18	78	25	-	-	301
Credit College	97	13	9	7	12	-	17	21	11	13	20	23	28	5	22	11	-	309
Private Paradise	74	2	19	-	3	8	21	3	4	-	20	2	38	9	23	-	-	226
TOTAL 1988	858	111	66	15	94	58	198	137	115	13	98	63	116	160	123	11	30	2266
TOTAL 1987	801	60	121	11	88	51	191	131	109	15	115	74	136	188	145	13	35	2284
TOTAL 1986	764	51	116	9	83	45	187	126	102	18	127	82	150	208	160	14	39	2281

The Analysis Followed in Assessing Personnel Needs

There is not one simple mathematical model which can relate existing sources of data to accurately project personnel needs in a field as unpredictable as education. The value of the following analysis is in clarifying available information and providing a degree of reliability to existing trends. When the data from these procedures are synthesized a relatively accurate projection of the personnel needs in education can be established.

A. Proportion of Newly Trained Teachers Employed

The rationale for this procedure is described on page 6 in Chapter II. The procedure to determine the proportion of teachers who secure their initial employment in the public schools is to divide the number of new hires trained in the state by the total number prepared in the state the previous year (see Figure 3, page 7). An example of this analysis is shown in Table 6.

TABLE 6

COMPARISON OF TEACHERS COMPLETING ELIGIBLITY FOR CERTIFICATION TO THOSE EMPLOYED IN SELECT CATEGORIES (IN-STATE EMPLOYMENT RATIO)

School	Elementary (K-8)		English		Reading		English as a Second Lang		Math		Music		Physical Education		Science		Social Studies		Hearing Impaired		Emotional Disturbance		Learning Disabilities		Mental Retardation		Speech/Language	
	T*	E**	T	E	T	E	T	E	T	E	T	E	T	E	T	E	T	E	T	E	T	E	T	E	T	E	T	E
Ivory Tower	247	92	55	12	19	12	8	4	45	13	19	11	25	6	58	7	36	8	-	-	17	13	6	4	38	17	40	24
Normal	246	92	17	7	6	4	-	-	17	7	16	8	37	8	9	2	38	5	-	-	10	7	10	7	30	14	13	8
Athletic Tech	96	34	16	5	9	5	-	-	5	1	12	5	67	19	32	5	20	3	-	-	11	8	16	10	-	-	-	-
Easy Grader	98	29	8	2	4	3	-	-	12	2	3	1	31	4	14	3	6	2	-	-	-	-	18	12	78	36	25	16
Credit College	97	32	13	5	9	3	7	3	12	4	-	-	17	3	21	5	11	2	13	4	23	16	28	18	5	2	22	14
Private Paradise	74	15	2	1	19	10	-	-	3	1	8	3	21	4	3	1	4	1	-	-	2	1	38	25	9	4	23	14
Total	858	294	111	32	66	37	15	7	94	28	58	28	198	44	137	23	115	21	13	4	63	45	116	76	160	73	123	76
In State Employ Ratio***	34%		29%		56%		47%		30%		48%		22%		17%		18%		31%		71%		66%		46%		62%	

* trained in-state ** employed in-state *** See Figure 3 (p.7) for model of in-state employment ratio calculation.

The information presented in Table 6 provides prospective teachers an estimate of their chances of employment in the state's public schools. This employment projection can also be an estimate of the oversupply of teachers in fields with low employment proportions.

The accuracy of this projection is based on the stability of the pupil population and consistent numbers of teachers being trained. It is possible to compare the employment opportunities among the different teaching fields in education. Many of the newly-hired teachers were prepared several years prior to their first teaching position in the public schools. These individuals often work as substitute teachers, teacher aides, or outside the field of education prior to their first teaching position. The data showing how many years that elapsed prior to their first employment in public schools can be determined.

A number of factors need to be considered when interpreting the data found in Table 6. Private schools may employ a portion of the newly trained teachers. Although data regarding the number of teachers employed in private schools are usually not available, projections can be made. These projections would be made by estimating average pupil/teacher ratios and attrition rates in relation to the total private school population.

Educational fields where teachers have multiple certifications are counted two or more times for training, yet are only counted once for securing a position. This suppresses the employment ratio and needs to be taken into consideration when applicable. Also, some fields have better employment opportunities outside of education which can result in a low proportion seeking teaching positions.

B. Projection Based on Emergency Licenses

The educational fields with a serious shortage of teachers will probably have a disproportionate number of emergency licenses. The number of emergency licenses is a strong measure of additional teachers that need to be trained because this figure reflects the number of teachers needed in addition to teachers trained out-of-state, teachers returning to the field, and the impact of the newly trained in-state teachers from the previous year. Even with the contribution of these sources to the ranks of newly-hired teachers, there may be a shortage of personnel as is evidenced by the number of new emergency licenses issued. It may be difficult to increase the number of teachers available from out-of-state and the number of returning teachers since factors such as family unity and economics determine their availability to the profession.

The next step is to relate the proportion of newly prepared teachers who secure teaching positions in the state (see Figure 3) to the additional teachers needed as determined by the number of newly issued emergency licenses. By simply dividing the number of emergency licenses issued the previous year by the proportion of newly prepared teachers who secure teaching positions in the state, the number of additional trainees needed will be obtained. A presentation of the procedure is shown in Figure 4 on page 7. This procedure will not project the number of teachers needed unless there is a shortage of teachers indicated by the issuance of new emergency licenses.

Many factors must be considered in projecting the number of teacher trainees needed to eliminate the need for emergency licenses. The proportion of newly trained teachers must be interpreted on the premise that the teachers could secure employment if they desired it. If there is an overproduction of teachers in certain categories, then the projected employment ratio cannot be used to calculate teacher need; no need exists. The projected employment ratio is affected by many variables when using this data to determine teacher needs. The geographical isolation of children with low incidence handicapping conditions (e.g., visual impairments, severe handicapps) restricts the flexibility of a teacher in securing employment in his/her area of preparation. The restrictive nature of certification standards in some areas of education limits the availability

of teachers trained out-of-state and can, to an extent, limit the positions to teachers trained in the state. Also, the oversupply of teachers in a category will greatly reduce the proportion who can find employment in this field. The explanation in the footnotes to Table 7 should help clarify the variables that determine the proportion of teachers who can secure employment in the state.

TABLE 7

PROJECTED ADDITIONAL TEACHERS NECESSARY TO ELIMINATE THE NEED FOR NEW EMERGENCY LICENSES IN SELECT AREAS

	# New Emergency Licenses to Teachers in Public Schools / Proportion of Newly Trained Teachers Who Teach in State		# of Additional Teachers Needed to Eliminate New Emergency Licenses
English as a Second Language	25 / 47%	=	53 (1)
Emotional Disturbance	128 / 71%	=	180 (2)
Learning Disability	103 / 66%	=	156 (3)
Speech/Language	32 / 62%	=	52 (4)

(1) This shortage reflects the need for teachers who are bilingual in Spanish primarily at the elementary level. Other bilingual teachers, particularly in the Asian languages, are needed in specific geographical areas.

(2) The high need projection in Emotional Disturbance is consistent with the continued high number of emergency licenses being issued, the high employment ratio indicating availability of jobs, and the need to train additional teachers in this field.

(3) The projection for Learning Disabilities is similar to Emotional Disturbance except that the shortage of teachers is not as critical.

(4) The Speech/Language projection is consistent with other information for high incidence conditions. The proportion of individuals who secure positions in public schools is suppressed due to employment opportunities in clinics and hospitals. Thus, an overproduction of therapists is needed to fill existing positions in public schools.

Longitudinal Data to Identify Trends

The development of a separate computer file of newly hired teachers can easily be replicated on a yearly basis to provide valuable information on changing employment trends. Changes in birth rates will be reflected as soon as children reach elementary grades. Changes in high school graduation requirements will be reflected by increases or decreases in specific subject fields, as will legislative mandates impacting on certain training fields. Table 8 provides a summary of this information.

TABLE 8

NUMBER OF NEWLY HIRED TEACHERS
OVER A FOUR YEAR TIME SPAN

	1985-86	1986-87	(change)	1987-88	(change)	1988-89	(change)
Elementary (K-8)	1081	1165	(+84)	1293	(+128)	1347	(+54)
Secondary/ Specialty							
English	133	139	(+6)	134	(-5)	136	(+2)
Reading	80	76	(-4)	67	(-9)	69	(+2)
Foreign Language	75	83	(+8)	84	(+1)	104	(+20)
English as a Second Language	8	11	(+3)	14	(+3)	18	(+4)
Math	119	108	(-11)	101	(-7)	96	(-5)
Music	158	171	(+13)	181	(+10)	185	(+4)
Physical Education	75	87	(+12)	98	(+11)	119	(+21)
Art	45	61	(+16)	82	(+21)	112	(+30)
Science	76	80	(+4)	83	(+3)	71	(-12)
Social Studies	97	91	(-6)	89	(-2)	79	(-10)
TOTAL SECONDARY/ SPECIALTY	866	907	(+41)	933	(+26)	989	(+56)
Special Education							
Hearing Impaired	5	6	(+1)	6	(0)	8	(+2)
Mental Retardation	151	139	(-12)	134	(-5)	85	(-49)
Early Childhood	51	47	(-4)	47	(0)	46	(-1)
Emotional Disturbance	170	168	(-2)	168	(0)	169	(+1)
Learning Disability	185	174	(-11)	166	(-8)	156	(-10)
Speech/Language	72	74	(+2)	78	(+4)	83	(+5)
Visual Disability	1	2	(+1)	2	(0)	3	(+1)
TOTAL SPECIAL EDUCATION	635	610	(-25)	601	(-9)	550	(-51)
GRAND TOTAL	2582	2682	(+100)	2827	(+145)	2886	(+59)

Supplemental Information

The model to assess personnel needs presented in this manual does not take into account the variables that affect its market-generated outcomes. This should not imply that factors such as teacher retirement, attrition, geographical factors, and the support of educational programs are not important in understanding the changes taking place in the field. This section will present the methodology for assessing select areas that impact on this market-generated model.

A. Teacher Attrition Studies

Computer analysis of the state's employment file provides the opportunity to do a variety of teacher attrition studies. Caution is advised; the length of computer runs (cpu time) can be considerable with this analysis.

1) State Attrition

This attrition figure shows the extent of teacher loss on a state wide basis. This would not include teachers who move from one district to another within the same state. Calculation of state attrition involves comparing the state's teacher employment file from the past year with the current file to identify the number of teachers who left teaching in the state by certification category.

The number of teachers who left in each category by age is then divided by the total number of teachers in that category who were employed the previous year. It is also possible to combine the total categories within a field to look at the comparable rates in elementary education, secondary/specialty fields, and special education. It is recommended that an attrition study be made with teachers on emergency licenses to measure the turnover rate of less-than-fully-prepared teachers. Figures 5 through 8 are samples of the type of information that can be obtained with this analysis.

FIGURE 5
Elementary (K-8)

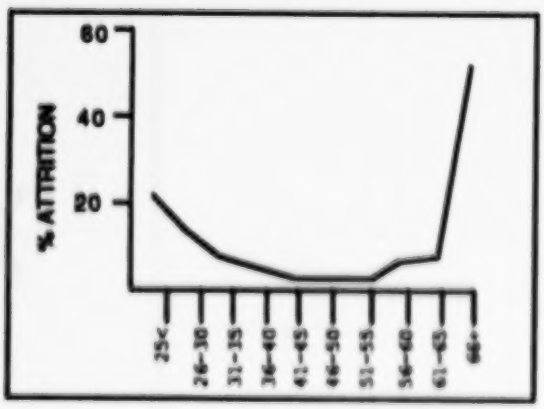


FIGURE 6
English

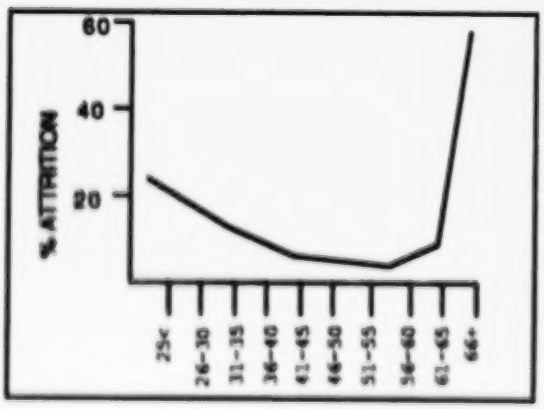


FIGURE 7

Math

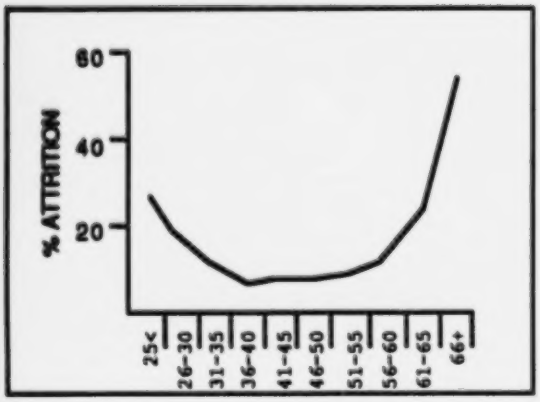
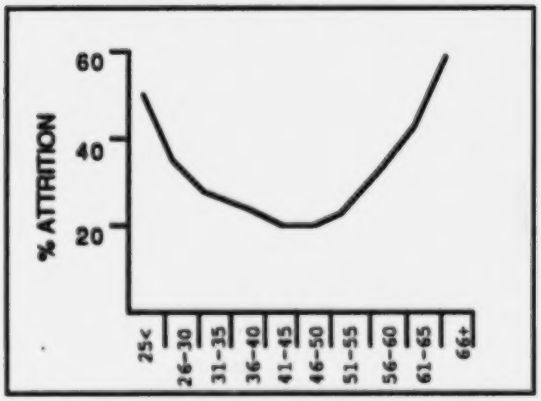


FIGURE 8

Emotional Disturbance



2) District Attrition

This attrition figure shows the extent to which teacher turnover impacts on local school districts. The only difference between this calculation and the state attrition rate is that teacher movement between districts within the state is included in this rate. A comparison of the district attrition percent to the state attrition will identify the number of teachers transferring between districts.

The method of calculating attrition by district is the same as previously described for state-level attrition in that loss of teachers from each school district in the state is determined. With this procedure, it is possible to identify individual districts with unusually high or low attrition rates.

B. Geographical Analysis

This section of the manual will present several different approaches for evaluating the quality/type of educational services provided students in various regions of the state. Adoption of these procedures allows reconcilation of each state's unique service delivery system and geographical patterns.

1) Rural/Urban Comparisons

This analysis identifies significant differences in services provided children in cities versus rural areas. A variety of problems can be studied with this approach such as the drop-out rate, proportion of emergency licenses issued, and proportion of handicapped children served by disability. Previous research has shown significant differences in these comparisons.

In carrying out this comparison, the larger city districts are separated from those that are rural. The selection of city districts should be based on the fact that their size is such that they would not consolidate with other small towns. This results in a more clear separation of rural and urban districts. Another method to verify this separation of rural and urban areas is to divide the city population into the pupil population of the district. Those districts with a low proportion would be considered urban since the population of consolidated town and rural areas would not contribute to the city population total.

Table 9 provides an example of this approach with select categories of children with handicaps. Following identification of school districts as either urban or rural, the proportion of children with disabilities in each category is calculated, allowing comparison between settings.

TABLE 9

A COMPARISON OF SELECT CATEGORIES OF HANDICAPPED STUDENTS SERVED IN RURAL AND URBAN SETTINGS

	# Pupils Rural	% Pupils* Rural	# Pupils Urban	% Pupils Urban	TOTAL PUPIL POPULATION
Mental Retardation	7,066	64	4,038	36	11,104
Early Childhood	4,079	72	1,583	28	5,662
Emotional Disturbance	6,363	60	4,276	40	10,639
Learning Disability	18,428	66	9,597	34	28,025
Speech/Language	19,243	62	11,733	38	30,976
Visual Disability	327	63	191	37	518
TOTAL	55,506	64	31,418	36	86,924

* Proportion of total children with disability/category

2) Geographical Regions

Most states have some form of regional service agency that divides the state into various administrative units. The analysis of data between these regions can show large differences in such variables as the incidence of handicapped children served and the proportion of emergency licenses issued.

The methodology for comparing the incidence of children served by disability in the different service regions of a state is described. The procedure for this calculation appears very complex, but actually involves no more than a few steps of division. Figure 9 provides a diagram of the steps in the calculation.

FIGURE 9

SERVICES PROVIDED CHILDREN WITH DISABILITIES BY REGION

$$\frac{\dfrac{\text{Total Number of Children in a Category in a Region}}{\text{Total Pupil Population in a Region}} - \dfrac{\text{Total Pupil Population in a Category in the State}}{\text{Total Pupil Population in the State}}}{\dfrac{\text{Total Pupil Population in a Category in the State}}{\text{Total Pupil Population in the State}}} = \text{Percentage of Students Above or Below State Average Incidence for a Category}$$

STEPS IN DATA COLLECTION

1. Identify the total population of each category of children being investigated in each region of the state. Identify the total pupil population in each region. By dividing the total number of children in a category in a region by the total pupil population in a region, calculate the proportion of children by each category in each region.

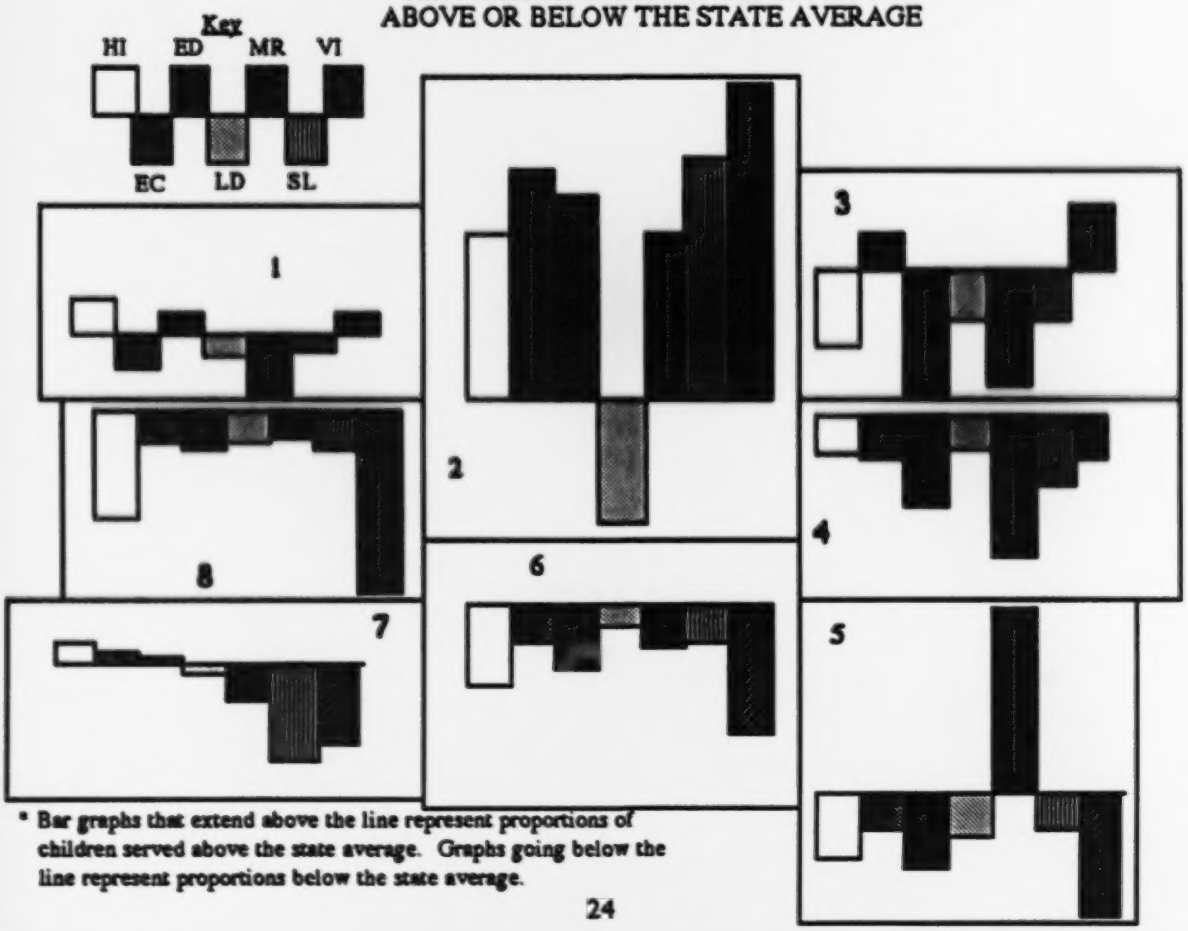
2. Identify the total population of each category of children being investigated in the state. Identify the total pupil population in the state. Calculate the proportion of children in the category in the state by dividing the total pupil population in the category in the state by the total pupil population in the state.

3. Compare the proportion obtained for a region with the statewide proportion by subtracting (2) from (1). The result of this difference is a measure of the discrepancy between the extent of services offered in that region and the statewide average.

4. Determine the percentage of services provided in the region in relationship to the statewide average by dividing the discrepancy (i.e. result of step 3) by the percent of services in the total pupil population (i.e. result of step 2).

Figure 10 is a graphic representation of the data obtained in a hypothetical state. An example of the type of data obtained is presented in Table 10.

FIGURE 10
COMPARISON PROPORTION OF SPECIAL EDUCATION
SERVICES PROVIDED IN EACH REGION
ABOVE OR BELOW THE STATE AVERAGE



* Bar graphs that extend above the line represent proportions of children served above the state average. Graphs going below the line represent proportions below the state average.

TABLE 10

SERVICES PROVIDED CHILDREN WITH DISABILITIES BY REGION

Region		Hearing Impaired	Early Childhood	Emotional Disturbance	Learning Disability	Mental Retardation	Speech/ Language	Visually Impaired	TOTAL	Total Pupil Enrollment
1	N*	330	1271	4278	8715	2962	9871	161	27,588	
	P**	.14	.54	1.81	3.68	1.25	4.17	.07	11.66	236,557
	D***	+.03	-.15	+.24	-.50	-.52	-.49	+.01	-1.38	
	PC****	+27	-22	+15	-12	-29	-11	+17	-11	
2	N	119	905	1887	5073	1903	6369	95	16,351	
	P	.26	1.98	4.14	1.11	4.17	13.97	.21	35.87	45,596
	D	+.15	+1.29	+2.57	-3.07	+2.40	+9.31	+.15	+22.83	
	PC	+136	+187	+164	-73	+136	+200	+250	+175	
3	N	47	463	511	2106	1039	2316	47	6529	
	P	.08	.76	.83	3.44	1.70	3.78	.08	10.66	61,231
	D	-.03	+.07	-.74	-.74	-.07	-.88	+.02	-2.38	
	PC	-27	+10	-47	-18	-4	-19	+33	-18	
4	N	70	408	680	2668	1217	2442	39	7524	
	P	.09	.55	.91	3.57	1.63	3.27	.05	10.07	74,732
	D	-.02	-.14	-.66	-.61	+.14	-1.39	-.01	-2.97	
	PC	-18	-20	-42	-15	+79	0	-17	-23	
5	N	34	290	488	1720	1764	2050	11	6357	
	P	.07	.58	.98	3.44	3.53	4.11	.02	12.73	49,931
	D	-.04	-.11	-.59	-.74	+1.76	-.55	-.04	-.31	
	PC	-36	-16	-38	-18	+99	-12	-66	-2	
6	N	62	566	1152	3823	1453	3864	23	10,943	
	P	.06	.56	1.13	3.76	1.43	3.80	.02	10.75	101,761
	D	-.05	-.13	-.44	-.42	-.34	-.86	-.04	-2.29	
	PC	-45	-18	-28	-10	-19	-18	-67	-18	
7	N	88	534	1160	2937	1094	3227	30	9070	
	P	.12	.74	1.6	4.04	1.5	4.44	.04	12.49	72,620
	D	+.01	+.05	+.03	-.14	-.27	-.22	-.02	-.55	
	PC	+9	+7	+2	-3	-15	-47	-33	-42	
8	N	9	138	293	830	369	896	1	2536	
	P	.04	.58	1.23	3.49	1.55	3.76	.00	10.65	23,806
	D	-.07	-.11	-.34	-.69	-.22	-.9	-.06	-2.39	
	PC	-64	-16	-22	-17	-12	-19	-100	-18	
TOTAL		759	4,575	10,449	27,872	11,801	31,035	407	86,898	666,234
% of services in relation to total pop		.11	.69	1.57	4.18	1.77	4.66	.06	13.04	

* number of children with disabilities being provided services in each region

** proportion of handicapped services provided in relationship to the region total pupil enrollment

*** discrepancy between the proportion of services provided in that region and the state average

**** percentage (above or below) state-wide average of services provided handicapped children

CHAPTER IV
INSERVICE

Assessment of Inservice Needs

This manual briefly summarizes and highlights the important aspects of inservice assessment and training. A number of excellent resources are available in this area, making duplication here unnecessary. The unique nature of individual states' delivery systems of inservice programming also makes development of a single procedure difficult. As a basis for establishing and evaluating a quality CSPD system, the reader is referred to the work of the Project on Cooperative Manpower Planning in Special Education at the University of Missouri-Columbia, Columbia, Missouri. This special project generated a number of publications, including topics such as needs assessment considerations, indicators of effectiveness in local school districts, and evaluation considerations.

The first step in developing a comprehensive plan for addresssing inservice needs should be to establish a planning committee whose responsibilities would include needs assessment, identification of objectives for inservice programs, and plans for implementation of these programs. Committee activities should result in comprehensive plans for staff development.

The planning committee should include representatives from the fields of both general and special education. Members on this committee should include representation from school boards, superintendents, directors of special education, general education administration, general and special educators, supportive services personnel, parents, employees of agencies that provide services to the handicapped, private school employees, and teacher trainers. Committee members may be identified by election of peers, volunteering, or appointment by the SEA.

The first function of the committee should be to determine the needs in target populations. As the basis of this review, assessment instruments should be developed. These assessment instruments could include surveys or questionnaires; interviews with teachers, parents, and others; group discussions; and/or observation. Sample needs assessment forms are available from sources such as the PANAMS Project (Planning a Needs Assessment Management System). The PANAMS Project has developed needs assessment instruments and computer software to assist in determining the inservice needs of special education teachers, parents, and transitional services personnel. In the future, similar assessment components will be available for use with related services personnel. Further information regarding these materials can be obtained from: PANAMS, 850 College Station Road, Athens, Georgia 30610. (404) 542-3900 or SpecialNet PROJECT.PANAMS.

Those targeted for needs assessment could include general and special education teachers and administrators, psychologists, speech/language clinicians, school counselors and social workers, recreation therapists, physical and occupational therapists, parents, volunteers, foster parents, vocational educators, paraprofessionals, and any others responsible for providing services to students with handicaps.

The planning committee is then responsible for gathering assessment data, analyzing and interpreting data, and disseminating results of the needs assessment to respondents. Inservice plans are developed by the planning committee to reflect the expressed needs of the target populations.

The inservice activities should be designed so that participants can learn new techniques and methods. All plans should include goals and programs that will be implemented within a specified time frame; specific inservice objectives; long range sequence of activities (ideally 4 to 5 year plans); detailed descriptions of major workshops and activities during the first 12 to 18 months; a list of resource persons and materials to be utilized; and a budget that supports the inservice program.

Planning for implementation of the inservice programs is critical to the success of these programs. Inservice activities should be advertised and incentives should be designed so that participants will be motivated to attend and participate. Participants should be fully informed of the topic, goals, methods, times, and dates of the inservice.

Finally, methods of evaluating the inservice programs should be developed. These may be follow-up surveys, evaluation forms, interviews with participants, observation, or performance records. Evaluation of the inservice programs is the responsibility of the planning committee. The evaluation process should be ongoing to assure that the inservice plan is accomplishing its expressed goals and objectives. Evaluation should be a process that determines the value of the inservice to the participants, identifies potential problems, clarifies needs, improves activities, reinforces positive performance, and continues the needs assessment process. Effective evaluations insure program quality, professional and personal growth, and the basis for future decision making.

CHAPTER V

SPECIAL EDUCATION CSPD EVALUATION MODEL

Evaluation Model

The CSPD model has the potential to satisfy several goals. It should enhance the cooperative personnel planning within the state among college and university personnel, regional and local education personnel, and the SEA so that a planning system can be developed. It should provide IHEs with a basis for advising and assigning students to majors relevant to the supply and demand of teachers. Accurate data about new trends in certification can be supplied to professionals working in the field of special education so that teachers can provide the best possible programs for their students, as well as establish a professional identity and sense of security for themselves. Unfortunately, the CSPD section of the state program plan has had limited emphasis and this is one section of the law that can provide support that would justify the continued funding of P.L. 94-142.

This project reviewed all state CSPD plans and the absence of a consistent format made it difficult to assess this program area. This is due, in part, to the fact that regulations were passed before a strong model for the CSPD report was available. Thus, an outline for a model CSPD report was designed (See Appendix D). Adoption of this outline will facilitate evaluation of these reports and provide a consistent model for data collection so that goals can be reviewed and attained.

The first step in the process of developing the model was to review current CSPD regulations (See Appendix E). The outline incorporates all areas required by the current regulations. The second step in the process was to determine information required to develop reliable data bases necessary to accurately predict supply and demand of special education personnel and enhance decision-making regarding personnel issues at the local, state, regional, and national levels. These areas were added to the outline as supplemental areas.

A point system was developed to quantify the evaluation of each CSPD plan. Higher points were assigned to required areas than were assigned to supplemental areas. It should be noted that the lower points for supplemental areas do not reflect the relative importance of these areas, but the fact that these areas are not currently required in the regulations.

Results of the evaluation revealed wide discrepancies in the quality and type of information contained in these reports. If states would submit CSPD plans following a standard outline, evaluation of these plans could be improved, and the information supplied in these documents could more readily provide the information required to predict personnel needs and highlight inservice needs in special education.

Appendix A

TEACHER SUPPLY AND DEMAND PROJECT
1988-89

Today's Date

Dear Colleague:

The State Education Agency is very concerned that an adequate supply of teachers be available to serve the needs of students. One of the areas which should be considered is whether our state is preparing a sufficient number of qualified education personnel in the various certification areas. In addition, it would be extremely helpful to identify the major concerns which educators have about their field.

The education needs assessment study will provide important information to teacher training insititutions, as well as help in determining trends in the employment in the various fields of education. Your participation in this study would be greatly appreciated. Your input in this study takes on added importance because you are a member of the first group of teachers who have been asked to supply this information. The individual responses to the survey requested each year of the follow-up study will be strictly confidential. The composite results will be published by the State Education Agency after the project is completed.

The interpretation of follow-up studies of graduates has been difficult due to name and/or address changes. We would appreciate it if you would drop us the enclosed postcard to keep us informed of any name or address change.

You will find a short survey form enclosed with this letter. Please complete the form by
If you have any questions, please feel free to call Teacher Supply and Demand Project at 000-000-0000.

We will keep you posted on the results of each year's study and look forward to working with you over the course of the follow-up.

Sincerely,

Project Director

Appendix B
FOLLOW-UP SURVEY

I. NAME: _____ PARENT: _____

ADDRESS: PARENT'S ADDRESS:

_____ _____

_____ _____

RESPOND TO SECTION II OR SECTION III AS APPROPRIATE TO YOUR STATUS

II. Indivduals not currently employed in education answer ONLY section II:

A. EMPLOYED OUTSIDE EDUCATION

1. Position Title_____
2. Current Salary_____
3. Job Duties_____
   _____
4. Employer Name _____
5. Address_____
   _____

B. Other status (e.g., raising children, seeking employment, retired, etc.)

_____

_____

III. Individuals currently employed in education

A. EDUCATION POSITION

1. Position title_____
2. School/Agency_____
3. District _____

4. Type of Classroom (check)

___GENERAL ED	___SPECIAL ED
___ elementary	___elementary
___ secondary	___secondary

5. Please indicate your current teacher certification category

_____

B. PERSONNEL DATA

1. Total number of years teaching_____

2. Current teaching salary_____

3. Highest degree earned: Bachelor ___ Masters___Post Masters ___

C. TRAINING NEEDS FOR THOSE IN EDUCATIONAL POSITIONS

As a more experienced teacher, what additional training would improve your competence in working with children?

1. _____

2. _____

3. _____

D. TEACHING FACTORS

1. How many additional years do you expect to continue in education?

___ 1-2 ___ 3-5 ___6-10___11-30

2. In previous surveys we have studied the attrition rates of teachers. What do you feel are possible reasons for teachers leaving the field?

_____

_____

_____

3. Many teachers remain in education for a long period of time and find it very rewarding. What do you feel are the reasons that make teaching an attractive profession?

_____

_____

_____

Appendix C

TEACHER SUPPLY AND DEMAND PROJECT
STATE EDUCATION AGENCY

Today's Date

_____
_____
_____
_____

Dear _____:

This year we are asking your cooperation in supplying information about students who have recently completed your training program. Your cooperation will be a significant factor in making the Teacher Supply and Demand Study both informative and accurate in predicting personnel needs. An important part of this study is to be able to accurately project the personnel needs in our state.

The purpose of this letter is to request your assistance in identifying all the newly prepared students who have received eligibility for education certification during the past year. We would like you to send us the count of individuals who completed a teacher certification program between July 1, 19-- and June 30, 19--. Students who completed more than one certification should be counted in each area completed during this time period. Please provide us with this information on the enclosed form. We feel this study will be especially valuable since we will be able to provide you with accurate data for advising students about the employment potential in various fields of education.

All we request is that you fill out the enclosed form and return it in the postage paid envelope. Please respond by _____. Your cooperation is greatly appreciated.

Sincerely,

Project Director

Appendix D

OUTLINE FOR CSPD MODEL

Evaluation Points

I. Administrative — 15 points

- A. State Advisory Committee
  - 1. Representatives on Committee
    - a. Parents
    - b. General Education Teachers
    - c. Special Education Teachers
    - d. Teacher Trainers
    - e. Administrators
    - f. Other (advocacy groups, etc.)
  - 2. Operation/Responsibility of Advisory Group
    - a. Frequency of meetings
    - b. Activities and responsibilities of committee
    - c. Source of funding for group activities
    - d. Adequacy of funding

II. Critical Areas--Teacher Availability — 25 points

- A. Current Teacher Supply
  - 1. Number Currently Teaching
  - 2. Number Needed by Category
  - 3. Number of Personnel Requiring Retraining
- B. Number of New Teachers Prepared Yearly
  - 1. By Institution
  - 2. By Category
- C. Number of Newly Trained Teachers Employed in Teaching (Employment Profile)
  - 1. Follow-up Survey or State Data Base
- D. Number of Teachers Employed Who Are Not Fully Certified
  - 1. By Category
- E. Number of Newly Hired Teachers
  - 1. Number Trained In-State
  - 2. Number Trained Out-of-State
- F. Numbers of Support Personnel

III. Supplemental Areas--Teacher Availability — 15 points

- A. Teacher Attrition Rates
  - 1. By Category
  - 2. By Age
  - 3. By Geographical Area

B. Pupil/Teacher Ratios
C. Geographical Distribution of Services
D. Least Restrictive Placement
E. Public School Programs
F. Private School Programs
G. Higher Education
H. Vocational/Technical Schools
I. Institutions
   1. State Operated
   2. Child Caring
J. Homebound

IV. Assessment--Critical Areas — 30 points
A. Description of Assessment Process
   1. Special Education Teachers
   2. General Education Teachers
   3. Administrators
   4. Support Personnel
   5. Parents
B. Implementation
   1. Inservice for Special Education Teachers
   2. Inservice for General Education Teachers
   3. Inservice for Administrators
   4. Inservice for Support Personnel
   5. Inservice for Parents
   6. Geographical Scope of Training
   7. Staffing of Inservice
   8. Funding of Inservice/Time Frame
   9. Evaluation of Inservice
C. Preservice
   1. Areas of Training Need
   2. Target Populations
D. Innovative Practices
   1. Incentives to Insure Participation
   2. Local Staff Involvement
   3. Development of Instructional Materials
   4. Dissemination of Information from Research and Demonstration Projects
E. Dissemination
   1. To Teachers
   2. To Administrators
   3. To Agencies and Organizations
   4. Training to Establish Innovative Programs and Practices
   5. Reassessment of Current Practices

V. Technical Assistance — 5 points
VI. Evaluation Procedures — 10 points

Appendix E

EVALUATION MODEL FOR CSPD PLANS

This evaluation model provides a basis for the qualitative assessment of the CSPD sections of each state's program plan mandated by P.L. 94-142. The evaluation model includes critical areas of common data collections so that a national picture of personnel needs in special education can be determined. This model is comprehensive since all areas relevant to personnel needs are included in the data base. The model provides for collection of both current and longitudinal data that allow each state to examine its entire special education program. Those areas stipulated by the regulations are identified. The 100 point scoring system is weighted according to the importance of each section. At this time the model is intended to be used as a standard for the improvement of state CSPD plans. Furthermore, it is hoped that this model will allow regulations governing CSPD plans to be strengthened and revised to require the information necessary to develop quality teacher training and inservice programs. The goal for this evaluation model is to insure that children with exceptional educational needs receive the highest quality of educational services.

I. ADMINISTRATIVE VARIABLES

A. State advisory committee for CSPD activities

RATIONALE: Mandated by Federal Regulations Code 34(34CFR) section 76.101(e)(3)(ii), 300.381(a), 300.381(b), 300.38 (f)(7) and (300.387). Although all states are required to have advisory committees, states with small populations may be allowed to use their state special education advisory committee for this purpose.

1. Committee based on state size
2. Representation on committee
   a. parents
   b. general education teachers
   c. special education teachers
   d. teacher trainers
   e. administrators
   f. other (e.g., Advocacy Groups)
3. Frequency of meetings/time devoted to advising and evaluation of reports

TIMELINE: Within the three year cycle
JUSTIFICATION: An ongoing advisory committee will ensure quality reports.

B. Funding for state CSPD report

RATIONALE: Adequate funding for the state CSPD report is necessary if meaningful, high quality data is to be provided. Funding should show a relationship bewteen the amount of federal expenditures, inservice needs, and the size of the population with disabilities.

1. Adequacy of budget relative to the size of the state
2. Source of funding for CSPD activities

TIMELINE: Yearly
JUSTIFICATION: This is necessary for accurate and comprehensive CSPD plans.

II. SUPPLY OF NEWLY TRAINED TEACHERS

A. Current teacher supply

1. Number currently teaching
2. Number needed by category
3. Number of personnel requiring retraining

RATIONALE: Mandated by 34CFR section 300.382(c).

TIMELINE: Yearly
JUSTIFICATION: Yearly data provides a basis for longitudinal assessment

B. Number of new teachers prepared yearly by teacher training institution/certification category
RATIONALE: Mandated by 34CFR section 300.382(b)(1), 300.382(c), and 300.383. The number of newly trained teachers is essential for determining if a sufficient number of qualified personnel are being trained to provide appropriate educational services to students with exceptional educational needs.

TIMELINE: Yearly
JUSTIFICATION: Yearly data provide a basis for longitudinal assessment of trends in teacher supply and demand.

C. Number of newly trained teachers employed in teaching (employment profile)
RATIONALE: Longitudinal follow-up studies of newly certified teachers provide information on inservice needs, teacher satisfaction, and current employment status. Follow-up studies also show the proportion of newly prepare teachers who actually enter the field to teach students with handicaps. This information provides initial attrition data as well as information about the climate of the field of special education.

TIMELINE: Within the three year cycle
JUSTIFICATION: The cost of gathering this data yearly is prohibitive.

D. Number of teachers employed who are not fully certified
RATIONALE: Mandated by 34CFR section 300.382(b)(1). The number of teachers certified on a temporary basis license provides an indication of: (1) which areas in special education have the greatest need for trained personnel, and (2) how critical the shortage is in each disability category. The number of emergency licenses issued for general education would be of value for the purposes of comparison.

TIMELINE: Yearly
JUSTIFICATION: Yearly data allow for longitudinal studies of need for trained teachers in each area.

E. Number of newly hired teachers
1. Number trained in-state
2. Number trained out-of-state
RATIONALE: This information provides states with the data required for the formula used to project training needs.

TIMELINE: Yearly
JUSTIFICATION: Longitudinal studies and trends require yearly data collection

F. Related services/support personnel trained
RATIONALE: Mandated by 34CFR section 300.382(b)(1) and 300.382(c). The number of support personnel providing related services as defined in 300.13 is essential to determine the overall quality of services being provided to students with disabilities.

TIMELINE: Within the three year cycle
JUSTIFICATION: Although longitudinal data in this area would provide additional information, the cost of yearly assessment is not justified.

III. SUPPLEMENTAL

While federal regulations do not mandate the following components, these components provide information critical to a comprehensive assessment of personnel in special education. Unless attrition rates and pupil/teacher ratios are known, the actual quality and availability of services provided to special needs students cannot be determined. The number of newly trained teachers, without data on current employment and attrition, does not provide an accurate picture of personnel supply and demand.

A. Attrition
RATIONALE: Attrition information is an important variable in the identification of future personnel needs in special education, allowing sufficient numbers of future teachers to be recruited and trained in order to maintain quality service delivery to students with special needs. Furthermore, this information provides critical data about the stability of teachers in special education. In addition, a study of the causes of attrition identifies current conditions in the field that can be ameliorated to retain qualified personnel.

TIMELINE: Within the three year cycle
JUSTIFICATION: The cost of gathering this data yearly is prohibitive.

B. Pupil/Teacher ratios (including number of F.T.E. certified teachers) in relationship to the number of special education students served
RATIONALE: Student/teacher ratios are an indication of the quality of services provided to students with special needs and the implementations of individualized instruction as mandated by P.L. 94-142.

TIMELINE: Within the three year cycle
JUSTIFICATION: This information is relatively stable over a three year period.

C. Distribution of services to handicapped children by geographical area
RATIONALE: Studies have shown that the quality of services may be dependent on the geographical area in which the student lives. Attrition rates are often higher in rural areas, creating another service delivery issue.

TIMELINE: Within the three year cycle
JUSTIFICATION: Without information about service delivery in relation to geographical areas it is difficult to monitor the quality of services in rural areas.

D. Least restrictive placement
RATIONALE: Mandated by P.L. 94-142 that students be placed in the least restrictive environment. This component gives information about the proportion of students mainstreamed, in integrated special classes, in segregated programs, and in institutional programs.

TIMELINE: Within the three year cycle
JUSTIFICATION: Without this informaton is it impossible to assess whether or not students are being served in the least restrictive environment.

E. Services
RATIONALE: This component provides comprehensive information about various service delivery institutions from birth-21. This information is pertinent in assessing the availability of special education services in both public and private sectors. Trends in number of children served impacts on personnel needs.

1. Public schools
   TIMELINE: Yearly
2. Private schools (Elementary and secondary day schools)
   TIMELINE: Within the three year cycle
3. Vocational/Technical schools (State operated post secondary)
   TIMELINE: Within the three year cycle
4. Higher education (Public and private colleges)
   TIMELINE: Within the three year cycle
5. Homebound instruction (Students provided instructional services at home)
   TIMELINE: Within the three year cycle
6. Institutions
   a. State operated
   b. Child caring (Residential treatment centers that serve handicapped children with indirect state financial support)

   TIMELINE: Yearly
   JUSTIFICATION: This information is needed in order to accurately predict the number of teachers needed to serve in each categorical area.

IV. ASSESSMENT/CRITICAL AREAS

RATIONALE: Mandated by 34CFR sections 300.382(e), 300.382(f)(1), (2), (3), and (4). An assessment of training needs provides an insight into the quality of teacher training programs. Assessment of the inservice needs of general education teachers and support personnel should enhance cooperation between general education teachers and special education teachers, which will insure quality services for students with special needs. The assessment of parent needs provides input and cooperation from parents.

A. Description of assessment process
   1. Special education teachers
   2. General education teachers
   3. Support personnel
   4. Parents

   TIMELINE: Within the three year cycle
   JUSTIFICATION: The training needs of these groups remain relatively stable over the three year period.

B. Implementation
   RATIONALE: Mandated by 34CFR sections 300.382(f)(5)(i), 300.382(f)(5)(ii), 300.382(f)(6)(ii), and 300.383(b). Without implementation, the assessment of inservice needs of teachers, support personnel, and parents will not function to improve special education programs. In addition, implementation plans can serve to provide other states with information about practices that lead to quality inservice programs. Educational progress depends on the evaluation and dissemination of educational practices.
   1. Inservice for special education teachers
   2. Inservice for general education teachers
   3. Inservice for support personnel including administrators
   4. Inservice for parents
   5. Delivery of inservice by geographical area
   6. Methods used to staff inservice
   7. Sources of funding for inservice
   8. Time frame for presentation of inservice programs
   9. Evaluation of inservice

TIMELINE: Yearly
JUSTIFICATION: The listing of activities should be done during the three year cycle in order to provide an overall picture of training offered.

C. Preservice training
RATIONALE: Mandated by 34CFR sections 300.383(b) and (c).
1. Areas of training needed
2. Target populations

TIMELINE: Yearly
JUSTIFICATION: The listing of activities should be done during the three year cycle to provide an overall picture of training offered.

D. Innovative practices
RATIONALE: Mandated by 34CFR section 300.382 (e)(1), (e)(2), and (e)(3). If education is to continue to improve and meet the needs of students and society, the practices that lead to excellence in education must be presented to teachers. Research in education loses its meaning if theory is not translated and applied to practice in the classroom.
1. Incentives to insure teacher participation
2. Local staff involvement
3. Development of instructional materials
4. Dissemination of information from research and demonstration projects
5. Other projects

TIMELINE: Yearly
JUSTIFICATION: An explanation of activities accomplished during the three year cycle will provide a format for dissemination of activities.

E. Dissemination
RATIONALE: Information dissemination is mandated by 34CFR sections 77.101(e)(e)(iii) and (iv); 300.384(a) and 30.384(b)(1-3). Training components are mandated by 34CFR 76.101(e)(3)(iii) and 300.385(a)(b) and (c). Dissemination of information about innovative practices to all those who are involved with children with special needs is necessary to meet the needs of these students.
1. Information dissemination
   a. Information to teaching personnel
   b. Information to administrators
   c. Information to agencies
   d. Information to organizations
   e. Reassessment of current practices
2. Training
   a. To establish innovative practices
   b. To utilize instructional materials

TIMELINE: Within the three year cycle
JUSTIFICATION: This activity should be ongoing during the three year cycle with appropriate groups targeted each year.

V. TECHNICAL ASSISTANCE
RATIONALE: Technical assistance by SEA to LEAs is mandated by 34CFR 76.101(e)(3)(ii) and 300.837.

VI. EVALUATION PROCEDURES
RATIONALE: Monitoring the extent to which program objectives are being met is mandated by 34CCFR 76.101(e)(3)(ii).